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<110> DNAVEC RESEARCH INC.

<120> Method of inhibiting tumor proliferation

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<150> JP 2004-074570

<151> 2004-03-16

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<170> PatentIn version 3.1

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Glu Ile Asp Ser Val Gly Ser Glu Asp Ser Leu Asp Thr Ser Leu Arg
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Ala His Gly Val His Ala Thr Lys His Val Pro Glu Lys Arg Pro Leu
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Pro Ile Arg Arg Lys Arg Ser Ile Glu Glu Ala Val Pro Ala Val Cys
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Lys Thr Arg Thr Val Ile Tyr Glu Ile Pro Arg Ser Gln Val Asp Pro
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gtg att gtg atc atc tca ctt att gtc ctg gtt gtc att tgg aaa cag			2047
Val Ile Val Ile Ile Ser Leu Ile Val Leu Val Val Ile Trp Lys Gln			
540	545	550	
aaa ccg agg tat gaa att cgc tgg agg gtc att gaa tca atc agc ccg			2095
Lys Pro Arg Tyr Glu Ile Arg Trp Arg Val Ile Glu Ser Ile Ser Pro			
555	560	565	
gat gga cat gaa tat att tat gtg gac ccg atg cag ctg cct tat gac			2143
Asp Gly His Glu Tyr Ile Tyr Val Asp Pro Met Gln Leu Pro Tyr Asp			
570	575	580	

tca aga tgg gag ttt cca aga gat gga cta gtg ctt ggt cgg gtc ttg	2191		
Ser Arg Trp Glu Phe Pro Arg Asp Gly Leu Val Leu Gly Arg Val Leu			
585	590	595	
ggg tct gga gcg ttt ggg aag gtg gtt gaa gga aca gcc tat gga tta	2239		
Gly Ser Gly Ala Phe Gly Lys Val Val Glu Gly Thr Ala Tyr Gly Leu			
600	605	610	615
agc cgg tcc caa cct gtc atg aaa gtt gca gtg aag atg cta aaa ccc	2287		
Ser Arg Ser Gln Pro Val Met Lys Val Ala Val Lys Met Leu Lys Pro			
620	625	630	
acg gcc aga tcc agt gaa aaa caa gct ctc atg tct gaa ctg aag ata	2335		
Thr Ala Arg Ser Ser Glu Lys Gln Ala Leu Met Ser Glu Leu Lys Ile			
635	640	645	
atg act cac ctg ggg cca cat ttg aac att gta aac ttg ctg gga gcc	2383		
Met Thr His Leu Gly Pro His Leu Asn Ile Val Asn Leu Leu Gly Ala			
650	655	660	
tgc acc aag tca ggc ccc att tac atc atc aca gag tat tgc ttc tat	2431		
Cys Thr Lys Ser Gly Pro Ile Tyr Ile Ile Thr Glu Tyr Cys Phe Tyr			
665	670	675	
gga gat ttg gtc aac tat ttg cat aag aat agg gat agc ttc ctg agc	2479		
Gly Asp Leu Val Asn Tyr Leu His Lys Asn Arg Asp Ser Phe Leu Ser			
680	685	690	695
cac cac cca gag aag cca aag aaa gag ctg gat atc ttt gga ttg aac	2527		
His His Pro Glu Lys Pro Lys Glu Leu Asp Ile Phe Gly Leu Asn			
700	705	710	
cct gct gat gaa agc aca cgg agc tat gtt att tta tct ttt gaa aac	2575		
Pro Ala Asp Glu Ser Thr Arg Ser Tyr Val Ile Leu Ser Phe Glu Asn			
715	720	725	
aat ggt gac tac atg gac atg aag cag gct gat act aca cag tat gtc	2623		
Asn Gly Asp Tyr Met Asp Met Lys Gln Ala Asp Thr Thr Gln Tyr Val			
730	735	740	

ccc atg cta gaa agg aaa gag gtt tct aaa tat tcc gac atc cag aga	745	750	755	2671
Pro Met Leu Glu Arg Lys Glu Val Ser Lys Tyr Ser Asp Ile Gln Arg				
760	765	770	775	2719
780	785	790		2767
tca gaa gtc aaa aac ctc ctt tca gat gat aac tca gaa ggc ctt act				2815
Ser Glu Val Lys Asn Leu Leu Ser Asp Asp Asn Ser Glu Gly Leu Thr				
795	800	805		
ttt ttg gat ttg ttg agc ttc acc tat caa gtt gcc cga gga atg gag				2863
Leu Leu Asp Leu Leu Ser Phe Thr Tyr Gln Val Ala Arg Gly Met Glu				
810	815	820		
gtc ctc ctg gca caa gga aaa att gtg aag atc tgt gac ttt ggc ctg	825	830	835	2911
Val Leu Leu Ala Gln Gly Lys Ile Val Lys Ile Cys Asp Phe Gly Leu				
840	845	850	855	2959
gcc aga gac atc atg cat gat tcg aac tat gtg tcg aaa ggc agt acc				
Ala Arg Asp Ile Met His Asp Ser Asn Tyr Val Ser Lys Gly Ser Thr				
860	865	870		3007
tac acc aca ctg agt gat gtc tgg tat ggc att ctg ctc tgg gag	875	880	885	3055
Tyr Thr Thr Leu Ser Asp Val Trp Ser Tyr Gly Ile Leu Leu Trp Glu				
890	895	900		3103
atc ttt tcc ctt ggt ggc acc cct tac ccc ggc atg atg gtg gat tct				
Ile Phe Ser Leu Gly Gly Thr Pro Tyr Pro Gly Met Met Val Asp Ser				

act ttc tac aat aag atc aag agt ggg tac cgg atg gcc aag cct gac	905	910	915	3151
Thr Phe Tyr Asn Lys Ile Lys Ser Gly Tyr Arg Met Ala Lys Pro Asp				
920	925	930	935	3199
cac gct acc agt gaa gtc tac gag atc atg gtg aaa tgc tgg aac agt				3247
His Ala Thr Ser Glu Val Tyr Glu Ile Met Val Lys Cys Trp Asn Ser				
940	945	950		
gag ccg gag aag aga ccc tcc ttt tac cac ctg agt gag att gtg gag				3295
Glu Pro Glu Lys Arg Pro Ser Phe Tyr His Leu Ser Glu Ile Val Glu				
955	960	965		
aat ctg ctg cct gga caa tat aaa aag agt tat gaa aaa att cac ctg				3343
Asn Leu Leu Pro Gly Gln Tyr Lys Ser Tyr Glu Lys Ile His Leu				
970	975	980		
tca gac aat gca tac att ggt gtc acc tac aaa aac gag gaa gac aag				3391
Ser Asp Asn Ala Tyr Ile Gly Val Thr Tyr Lys Asn Glu Glu Asp Lys				
985	990	995		
ctg aag gac tgg gag ggt ggt ctg gat gag cag aga ctg agc gct				3436
Leu Lys Asp Trp Glu Gly Gly Leu Asp Glu Gln Arg Leu Ser Ala				
1000	1005	1010		
gac agt ggc tac atc att cct ctg cct gac att gac cct gtc cct				3481
Asp Ser Gly Tyr Ile Ile Pro Leu Pro Asp Ile Asp Pro Val Pro				
1015	1020	1025		
gag gag gag gac ctg ggc aag agg aac aga cac agc tcg cag acc				3526
Glu Glu Glu Asp Leu Gly Lys Arg Asn Arg His Ser Ser Gln Thr				
1030	1035	1040		
tct gaa gag agt gcc att gag acg ggt tcc agc agt tcc acc ttc				3571
Ser Glu Glu Ser Ala Ile Glu Thr Gly Ser Ser Ser Ser Thr Phe				
1045	1050	1055		

atc aag aga gag gac gag	acc att gaa gac atc	gac atg atg gac	3616
Ile Lys Arg Glu Asp Glu	Thr Ile Glu Asp Ile	Asp Met Met Asp	
1060	1065	1070	
gac atc ggc ata gac tct	tca gac ctg gtg gaa	gac agc ttc ctg	3661
Asp Ile Gly Ile Asp Ser	Ser Asp Leu Val Glu	Asp Ser Phe Leu	
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<212> PRT

〈213〉 *Homo sapiens*

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Asn Glu Asn Glu Lys Val Val Gln Leu Asn Ser Ser Phe Ser Leu Arg
 35 40 45

Cys Phe Gly Glu Ser Glu Val Ser Trp Gln Tyr Pro Met Ser Glu Glu
 50 55 60

Glu Ser Ser Asp Val Glu Ile Arg Asn Glu Glu Asn Asn Ser Gly Leu
 65 70 75 80

Phe Val Thr Val Leu Glu Val Ser Ser Ala Ser Ala Ala His Thr Gly
 85 90 95

Leu Tyr Thr Cys Tyr Tyr Asn His Thr Gln Thr Glu Glu Asn Glu Leu
 100 105 110

Glu Gly Arg His Ile Tyr Ile Tyr Val Pro Asp Pro Asp Val Ala Phe
 115 120 125

Val Pro Leu Gly Met Thr Asp Tyr Leu Val Ile Val Glu Asp Asp Asp
 130 135 140

Ser Ala Ile Ile Pro Cys Arg Thr Thr Asp Pro Glu Thr Pro Val Thr
 145 150 155 160

Leu His Asn Ser Glu Gly Val Val Pro Ala Ser Tyr Asp Ser Arg Gln
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Gly Phe Asn Gly Thr Phe Thr Val Gly Pro Tyr Ile Cys Glu Ala Thr
 180 185 190

Val Lys Gly Lys Lys Phe Gln Thr Ile Pro Phe Asn Val Tyr Ala Leu
 195 200 205

Lys Ala Thr Ser Glu Leu Asp Leu Glu Met Glu Ala Leu Lys Thr Val
 210 215 220

Tyr Lys Ser Gly Glu Thr Ile Val Val Thr Cys Ala Val Phe Asn Asn
 225 230 235 240

Glu	Val	Val	Asp	Leu	Gln	Trp	Thr	Tyr	Pro	Gly	Glu	Val	Lys	Gly	Lys		
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Gly	Ile	Thr	Met	Leu	Glu	Glu	Ile	Lys	Val	Pro	Ser	Ile	Lys	Leu	Val		
														260	265	270	
Tyr	Thr	Leu	Thr	Val	Pro	Glu	Ala	Thr	Val	Lys	Asp	Ser	Gly	Asp	Tyr		
														275	280	285	
Glu	Cys	Ala	Ala	Arg	Gln	Ala	Thr	Arg	Glu	Val	Lys	Glu	Met	Lys	Lys		
														290	295	300	
Val	Thr	Ile	Ser	Val	His	Glu	Lys	Gly	Phe	Ile	Glu	Ile	Lys	Pro	Thr		
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Phe	Ser	Gln	Leu	Glu	Ala	Val	Asn	Leu	His	Glu	Val	Lys	His	Phe	Val		
														325	330	335	
Val	Glu	Val	Arg	Ala	Tyr	Pro	Pro	Pro	Arg	Ile	Ser	Trp	Leu	Lys	Asn		
														340	345	350	
Asn	Leu	Thr	Leu	Ile	Glu	Asn	Leu	Thr	Glu	Ile	Thr	Thr	Asp	Val	Glu		
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Lys	Ile	Gln	Glu	Ile	Arg	Tyr	Arg	Ser	Lys	Leu	Lys	Ile	Arg	Ala			
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Lys	Glu	Glu	Asp	Ser	Gly	His	Tyr	Thr	Ile	Val	Ala	Gln	Asn	Glu	Asp		
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Ala	Val	Lys	Ser	Tyr	Thr	Phe	Glu	Leu	Leu	Thr	Gln	Val	Pro	Ser	Ser		
														405	410	415	
Ile	Leu	Asp	Leu	Val	Asp	Asp	His	His	Gly	Ser	Thr	Gly	Gly	Gln	Thr		
														420	425	430	
Val	Arg	Cys	Thr	Ala	Glu	Gly	Thr	Pro	Leu	Pro	Asp	Ile	Glu	Trp	Met		
														435	440	445	
Ile	Cys	Lys	Asp	Ile	Lys	Lys	Cys	Asn	Asn	Glu	Thr	Ser	Trp	Thr	Ile		

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Arg Ser Thr Val Glu Gly Arg Val Thr Phe Ala Lys Val Glu Glu Thr		
485	490	495
Ile Ala Val Arg Cys Leu Ala Lys Asn Leu Leu Gly Ala Glu Asn Arg		
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Glu Leu Lys Leu Val Ala Pro Thr Leu Arg Ser Glu Leu Thr Val Ala		
515	520	525
Ala Ala Val Leu Val Leu Val Ile Val Ile Ile Ser Leu Ile Val		
530	535	540
Leu Val Val Ile Trp Lys Gln Lys Pro Arg Tyr Glu Ile Arg Trp Arg		
545	550	555
Val Ile Glu Ser Ile Ser Pro Asp Gly His Glu Tyr Ile Tyr Val Asp		
565	570	575
Pro Met Gln Leu Pro Tyr Asp Ser Arg Trp Glu Phe Pro Arg Asp Gly		
580	585	590
Leu Val Leu Gly Arg Val Leu Gly Ser Gly Ala Phe Gly Lys Val Val		
595	600	605
Glu Gly Thr Ala Tyr Gly Leu Ser Arg Ser Gln Pro Val Met Lys Val		
610	615	620
Ala Val Lys Met Leu Lys Pro Thr Ala Arg Ser Ser Glu Lys Gln Ala		
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Leu Met Ser Glu Leu Lys Ile Met Thr His Leu Gly Pro His Leu Asn		
645	650	655
Ile Val Asn Leu Leu Gly Ala Cys Thr Lys Ser Gly Pro Ile Tyr Ile		
660	665	670

Ile Thr Glu Tyr Cys Phe Tyr Gly Asp Leu Val Asn Tyr Leu His Lys
 675 680 685

Asn Arg Asp Ser Phe Leu Ser His His Pro Glu Lys Pro Lys Lys Glu
 690 695 700

Leu Asp Ile Phe Gly Leu Asn Pro Ala Asp Glu Ser Thr Arg Ser Tyr
 705 710 715 720

Val Ile Leu Ser Phe Glu Asn Asn Gly Asp Tyr Met Asp Met Lys Gln
 725 730 735

Ala Asp Thr Thr Gln Tyr Val Pro Met Leu Glu Arg Lys Glu Val Ser
 740 745 750

Lys Tyr Ser Asp Ile Gln Arg Ser Leu Tyr Asp Arg Pro Ala Ser Tyr
 755 760 765

Lys Lys Lys Ser Met Leu Asp Ser Glu Val Lys Asn Leu Leu Ser Asp
 770 775 780

Asp Asn Ser Glu Gly Leu Thr Leu Leu Asp Leu Leu Ser Phe Thr Tyr
 785 790 795 800

Gln Val Ala Arg Gly Met Glu Phe Leu Ala Ser Lys Asn Cys Val His
 805 810 815

Arg Asp Leu Ala Ala Arg Asn Val Leu Leu Ala Gln Gly Lys Ile Val
 820 825 830

Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp Ile Met His Asp Ser Asn
 835 840 845

Tyr Val Ser Lys Gly Ser Thr Phe Leu Pro Val Lys Trp Met Ala Pro
 850 855 860

Glu Ser Ile Phe Asp Asn Leu Tyr Thr Leu Ser Asp Val Trp Ser
 865 870 875 880

Tyr Gly Ile Leu Leu Trp Glu Ile Phe Ser Leu Gly Gly Thr Pro Tyr
885 890 895

Pro Gly Met Val Asp Ser Thr Phe Tyr Asn Lys Ile Lys Ser Gly
900 905 910

Tyr Arg Met Ala Lys Pro Asp His Ala Thr Ser Glu Val Tyr Glu Ile
915 920 925

His Leu Ser Glu Ile Val Glu Asn Leu Leu Pro Gly Gln Tyr Lys Lys
945 950 955 960

Ser Tyr Glu Lys Ile His Leu Asp Phe Leu Lys Ser Asp His Pro Ala
965 970 975

Val Ala Arg Met Arg Val Asp Ser Asp Asn Ala Tyr Ile Gly Val Thr
980 985 990

Tyr Lys Asn Glu Glu Asp Lys Leu Lys Asp Trp Glu Gly Gly Leu Asp
 995 1000 1005

Glu Gln Arg Leu Ser Ala Asp Ser Gly Tyr Ile Ile Pro Leu Pro
 1010 1015 1020

Asp Ile Asp Pro Val Pro Glu Glu Glu Asp Leu Gly Lys Arg Asn
1025 1030 1035

Arg His Ser Ser Gln Thr Ser Glu Glu Ser Ala Ile Glu Thr Gly
1040 1045 1050

Ser Ser Ser Ser Thr Phe Ile Lys Arg Glu Asp Glu Thr Ile Glu
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1085

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ggg ctg agc cta atc ctc tgc cag ctt tca tta ccc tct atc ctt cca				96
Gly Leu Ser Leu Ile Leu Cys Gln Leu Ser Leu Pro Ser Ile Leu Pro				
20	25	30		
aat gaa aat gaa aag gtt gtg cag ctg aat tca tcc ttt tct ctg aga				144
Asn Glu Asn Glu Lys Val Val Gln Leu Asn Ser Ser Phe Ser Leu Arg				
35	40	45		
tgc ttt ggg gag agt gaa gtg agc tgg cag tac ccc atg tct gaa gaa				192
Cys Phe Gly Glu Ser Glu Val Ser Trp Gln Tyr Pro Met Ser Glu Glu				
50	55	60		
gag agc tcc gat gtg gaa atc aga aat gaa gaa aac aac agc ggc ctt				240
Glu Ser Ser Asp Val Glu Ile Arg Asn Glu Glu Asn Asn Ser Gly Leu				
65	70	75	80	
ttt gtg acg gtc ttg gaa gtg agc agt gcc tcg gcg gcc cac aca ggg				288
Phe Val Thr Val Leu Glu Val Ser Ser Ala Ser Ala Ala His Thr Gly				
85	90	95		

ttg tac act tgc tat tac aac cac act cag aca gaa gag aat gag ctt			336
Leu Tyr Thr Cys Tyr Tyr Asn His Thr Gln Thr Glu Glu Asn Glu Leu			
100	105	110	
gaa ggc agg cac att tac atc tat gtg cca gac cca gat gta gcc ttt			384
Glu Gly Arg His Ile Tyr Ile Tyr Val Pro Asp Pro Asp Val Ala Phe			
115	120	125	
gta cct cta gga atg acg gat tat tta gtc atc gtg gag gat gat gat			432
Val Pro Leu Gly Met Thr Asp Tyr Leu Val Ile Val Glu Asp Asp Asp			
130	135	140	
tct gcc att ata cct tgt cgc aca act gat ccc gag act cct gta acc			480
Ser Ala Ile Ile Pro Cys Arg Thr Thr Asp Pro Glu Thr Pro Val Thr			
145	150	155	160
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Leu His Asn Ser Glu Gly Val Val Pro Ala Ser Tyr Asp Ser Arg Gln			
165	170	175	
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Gly Phe Asn Gly Thr Phe Thr Val Gly Pro Tyr Ile Cys Glu Ala Thr			
180	185	190	
gtc aaa gga aag aag ttc cag acc atc cca ttt aat gtt tat gct tta			624
Val Lys Gly Lys Lys Phe Gln Thr Ile Pro Phe Asn Val Tyr Ala Leu			
195	200	205	
aaa gca aca tca gag ctg gat cta gaa atg gaa gct ctt aaa acc gtg			672
Lys Ala Thr Ser Glu Leu Asp Leu Glu Met Glu Ala Leu Lys Thr Val			
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Tyr Lys Ser Gly Glu Thr Ile Val Val Thr Cys Ala Val Phe Asn Asn			
225	230	235	240
gag gtg gtt gac ctt caa tgg act tac cct gga gaa gtg aaa ggc aaa			768
Glu Val Val Asp Leu Gln Trp Thr Tyr Pro Gly Glu Val Lys Gly Lys			
245	250	255	

ggc atc aca atg ctg gaa gaa atc aaa gtc cca tcc atc aaa ttg gtg			816
Gly Ile Thr Met Leu Glu Glu Ile Lys Val Pro Ser Ile Lys Leu Val			
260	265	270	
tac act ttg acg gtc ccc gag gcc acg gtg aaa gac agt gga gat tac			864
Tyr Thr Leu Thr Val Pro Glu Ala Thr Val Lys Asp Ser Gly Asp Tyr			
275	280	285	
gaa tgt gct gcc cgc cag gct acc agg gag gtc aaa gaa atg aag aaa			912
Glu Cys Ala Ala Arg Gln Ala Thr Arg Glu Val Lys Glu Met Lys Lys			
290	295	300	
gtc act att tct gtc cat gag aaa ggt ttc att gaa atc aaa ccc acc			960
Val Thr Ile Ser Val His Glu Lys Gly Phe Ile Glu Ile Lys Pro Thr			
305	310	315	320
ttc agc cag ttg gaa gct gtc aac ctg cat gaa gtc aaa cat ttt gtt			1008
Phe Ser Gln Leu Glu Ala Val Asn Leu His Glu Val Lys His Phe Val			
325	330	335	
gta gag gtg cgg gcc tac cca cct ccc agg ata tcc tgg ctg aaa aac			1056
Val Glu Val Arg Ala Tyr Pro Pro Arg Ile Ser Trp Leu Lys Asn			
340	345	350	
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Asn Leu Thr Leu Ile Glu Asn Leu Thr Glu Ile Thr Thr Asp Val Glu			
355	360	365	
aag att cag gaa ata agg tat cga agc aaa tta aag ctg atc cgt gct			1152
Lys Ile Gln Glu Ile Arg Tyr Arg Ser Lys Leu Lys Leu Ile Arg Ala			
370	375	380	
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Lys Glu Glu Asp Ser Gly His Tyr Thr Ile Val Ala Gln Asn Glu Asp			
385	390	395	400
gct gtg aag agc tat act ttt gaa ctg tta act caa gtt cct tca tcc			1248
Ala Val Lys Ser Tyr Thr Phe Glu Leu Leu Thr Gln Val Pro Ser Ser			
405	410	415	

att ctg gac ttg gtc gat gat cac cat ggc tca act ggg gga cag acg Ile Leu Asp Leu Val Asp Asp His His Gly Ser Thr Gly Gly Gin Thr	420	425	430	1296	
gtg agg tgc aca gct gaa ggc acg ccg ctt cct gat att gag tgg atg Val Arg Cys Thr Ala Glu Gly Thr Pro Leu Pro Asp Ile Glu Trp Met	435	440	445	1344	
ata tgc aaa gat att aag aaa tgt aat aat gaa act tcc tgg act att Ile Cys Lys Asp Ile Lys Lys Cys Asn Asn Glu Thr Ser Trp Thr Ile	450	455	460	1392	
ttg gcc aac aat gtc tca aac atc atc acg gag atc cac tcc cga gac Leu Ala Asn Asn Val Ser Asn Ile Ile Thr Glu Ile His Ser Arg Asp	465	470	475	480	1440
agg agt acc gtg gag ggc cgt gtg act ttc gcc aaa gtg gag gag acc Arg Ser Thr Val Glu Gly Arg Val Thr Phe Ala Lys Val Glu Glu Thr	485	490	495	1488	
atc gcc gtg cga tgc ctg gct aag aat ctc ctt gga gct gag aac cga Ile Ala Val Arg Cys Leu Ala Lys Asn Leu Leu Gly Ala Glu Asn Arg	500	505	510	1536	
gag ctg aag ctg gtg gct ccc acc ctg cgt tct gaa gac tac aag gac Glu Leu Lys Leu Val Ala Pro Thr Leu Arg Ser Glu Asp Tyr Lys Asp	515	520	525	1584	
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Asn Glu Asn Glu Lys Val Val Gln Leu Asn Ser Ser Phe Ser Leu Arg
35 40 45

Cys Phe Gly Glu Ser Glu Val Ser Trp Gln Tyr Pro Met Ser Glu Glu
50 55 60

Glu Ser Ser Asp Val Glu Ile Arg Asn Glu Glu Asn Asn Ser Gly Leu
65 70 75 80

Phe Val Thr Val Leu Glu Val Ser Ser Ala Ser Ala Ala His Thr Gly
85 90 95

Leu Tyr Thr Cys Tyr Tyr Asn His Thr Gln Thr Glu Glu Asn Glu Leu
100 105 110

Glu Gly Arg His Ile Tyr Ile Tyr Val Pro Asp Pro Asp Val Ala Phe
115 120 125

Val Pro Leu Gly Met Thr Asp Tyr Leu Val Ile Val Glu Asp Asp Asp
130 135 140

Ser Ala Ile Ile Pro Cys Arg Thr Thr Asp Pro Glu Thr Pro Val Thr
145 150 155 160

Leu His Asn Ser Glu Gly Val Val Pro Ala Ser Tyr Asp Ser Arg Gln
165 170 175

Gly Phe Asn Gly Thr Phe Thr Val Gly Pro Tyr Ile Cys Glu Ala Thr
180 185 190

Val Lys Gly Lys Lys Phe Gln Thr Ile Pro Phe Asn Val Tyr Ala Leu

195	200	205
Lys Ala Thr Ser Glu Leu Asp Leu Glu Met Glu Ala Leu Lys Thr Val		
210	215	220
Tyr Lys Ser Gly Glu Thr Ile Val Val Thr Cys Ala Val Phe Asn Asn		
225	230	235
Glu Val Val Asp Leu Gln Trp Thr Tyr Pro Gly Glu Val Lys Gly Lys		
245	250	255
Gly Ile Thr Met Leu Glu Glu Ile Lys Val Pro Ser Ile Lys Leu Val		
260	265	270
Tyr Thr Leu Thr Val Pro Glu Ala Thr Val Lys Asp Ser Gly Asp Tyr		
275	280	285
Glu Cys Ala Ala Arg Gln Ala Thr Arg Glu Val Lys Glu Met Lys Lys		
290	295	300
Val Thr Ile Ser Val His Glu Lys Gly Phe Ile Glu Ile Lys Pro Thr		
305	310	315
Phe Ser Gln Leu Glu Ala Val Asn Leu His Glu Val Lys His Phe Val		
325	330	335
Val Glu Val Arg Ala Tyr Pro Pro Pro Arg Ile Ser Trp Leu Lys Asn		
340	345	350
Asn Leu Thr Leu Ile Glu Asn Leu Thr Glu Ile Thr Thr Asp Val Glu		
355	360	365
Lys Ile Gln Glu Ile Arg Tyr Arg Ser Lys Leu Lys Leu Ile Arg Ala		
370	375	380
Lys Glu Glu Asp Ser Gly His Tyr Thr Ile Val Ala Gln Asn Glu Asp		
385	390	395
Ala Val Lys Ser Tyr Thr Phe Glu Leu Leu Thr Gln Val Pro Ser Ser		
405	410	415

Ile Leu Asp Leu Val Asp Asp His His Gly Ser Thr Gly Gly Gln Thr
 420 425 430

Val Arg Cys Thr Ala Glu Gly Thr Pro Leu Pro Asp Ile Glu Trp Met
 435 440 445

Ile Cys Lys Asp Ile Lys Lys Cys Asn Asn Glu Thr Ser Trp Thr Ile
 450 455 460

Leu Ala Asn Asn Val Ser Asn Ile Ile Thr Glu Ile His Ser Arg Asp
 465 470 475 480

Arg Ser Thr Val Glu Gly Arg Val Thr Phe Ala Lys Val Glu Glu Thr
 485 490 495

Ile Ala Val Arg Cys Leu Ala Lys Asn Leu Leu Gly Ala Glu Asn Arg
 500 505 510

Glu Leu Lys Leu Val Ala Pro Thr Leu Arg Ser Glu Asp Tyr Lys Asp
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Asp Asp Asp Lys
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